

# Emerging Role of Blue Finance in the Asia-Pacific Region



Regional Project Energy Security and  
Climate Change Asia-Pacific (RECAP)



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Mani Juneja, Kartikey Sharma, Ria Sinha and Souvik Bhattacharjya, The Energy and Resources Institute (TERI), India

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## Executive Summary

- ≡ Ocean-based sectors contribute significantly to the economic growth of the region, additionally for some of the island nations oceans are at the core of socio-economic functioning.
- ≡ For the purpose of the policy brief, the Asia-Pacific region includes South Asia, South-East Asia, East Asia, Australia, New Zealand and the Small Island Developing countries. The region is home to developed, developing and least developing economies (LDCs). Around 13 countries in Asia are Least Developing with nine of them being island or coastal economies.
- ≡ Investments are an important aspect of a sustainable ocean economy; however, the bulk of investments have been towards building large-scale infrastructure, energy, transport, commercial fisheries, aquaculture, biotechnology and marine tourism instead of transitioning towards blue economy.
- ≡ The need of a transition from ocean economy to a sustainable ocean economy has led to the rise of the concept of “Blue Finance” which promotes and supports the transition into economic growth aligned with blue economy.
- ≡ SDG 14 (Life under Water) includes 10 targets predominantly designed for the well-being of the oceans and the living resources therein. The estimated cost of implementing SDG 14 targets by 2030 is 174.52 billion US dollars per year, while currently 25.5 billion US dollars is spent annually. This indicates a funding gap of 149.02 billion US dollars per year.
- ≡ Additionally, the major sources of funding SDG14 have been limited to Official Development Assistance (ODAs) and philanthropy grants. A total funding of eight billion US dollars has been received from philanthropy and five billion US dollars from ODAs in the past one decade.
- ≡ Among the top ten recipients of ODA for a sustainable ocean economy globally, six are from the Asia-Pacific region. This represents the dependence of the Asian countries on ODA for financing sustainable ocean economy that are small and currently highly concentrated in three sectors — maritime transport, fisheries and marine protection.
- ≡ The financing gap highlighted cannot be managed from donor funds alone; therefore, the need for private funds and funds through other innovative financing mechanisms arises. Innovative financing mechanisms have not been able to flourish to the fullest in blue economy despite the presence of grants and ODAs for almost a decade.
- ≡ The major challenges are lack of bankable projects; lack of specialist capacity; definitional challenges; low private sector involvement; lack of awareness and understanding of potential risks emanating from issues pertaining to blue economy.
- ≡ In order to mobilize nations towards ocean conservation, it is required to look at regulatory strategies to mainstream ocean governance, and it is important for nations to clearly define and categorize different climate change-based interlinkages.
- ≡ As there are no accepted frameworks for financing blue economy, there is a wide scope of ideation. One is regulatory driven which implies that the sovereign states issue blue bonds inviting private investors with guarantees provided by the multilateral development banks such as World Bank. And the other, proposes pathways for accelerating investments in the blue economy. The investments are centred on the nodal financing facility (to be termed as Ocean Financing Facility) to raise required funds and direct the same to the blue economy projects.

# Table of Contents

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Executive Summary	4
List of Figures and Tables	6
About the Authors	7
Introduction	8
Regulatory Framework on Blue Finance	14
Potential Stakeholder Collaborations to Facilitate Finance	16
Conclusion	19
Annexes	20
References	21
Images	23



# List of Figures and Tables

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## List of Figures

Figure 1: ODA to the Sustainable Ocean Economy by SDG 14 Sub-goals	10
Figure 2: Recipients of ODA for Sustainable Ocean Economy in 2018	11
Figure 3: Landscape for Assessment of Blue Finance	18
Annex 1.1: Blue Finance Mechanism	20
Annex 1.2: Blue Finance Mechanism	20

## List of Tables

Table 1: Estimated Size and Share of Blue Economy (BE) in the GDP in Asia-Pacific Countries	10
Table 2: Country Wise Blue Finance Initiatives	11-12
Table 3: Potential Stakeholders Involved in Blue Financing	17

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# Introduction

## Blue Economy in the Asia-Pacific Region

Out of all the continents, Asia Pacific covers both a large portion of land and sea coastline of the world. The region includes East Asia, South Asia, South East Asia and Oceania. The area includes two oceans, the Indian Ocean (the third largest ocean) and the Pacific Ocean (the largest ocean) and several seas like Bay of Bengal and other water bodies. The ocean-based sectors provide a rich array of services that directly and indirectly contribute to human survival and quality of life, supporting local coastal communities and their larger national economies in the region. Ocean-based sectors contribute significantly to the economic growth of the region, additionally for some of the island nations — oceans are at the core of socio-economic functioning.<sup>1</sup> The region is a major producer of fish and fisheries products in the world, and Asia (excluding China) occupies around 34 per cent of the global fishing and aquaculture market. Asia has accounted for two-thirds of the global inland production since the mid-2000s.<sup>2</sup>

In terms of international maritime trade, there is a predominance of Asian and intra-Asian in globalized production processes and value chain growth. In 2019, 41 per cent of the total goods loaded (exported) were sourced from Asia and 62 per cent of total goods unloaded (imported) were received in the same region.<sup>3</sup> Both global ship production and ship breaking industries are dominated by the Asian countries as well. In 2019, Republic of Korea, Japan and Philippines made around 60 per cent of the global shipbuilding industry (93 per cent including China).<sup>4</sup> In the shipbreaking sector, Asian countries like Bangladesh, India and Pakistan lead in the maritime supply chain where Bangladesh made 47.2 per cent of this segment followed by India at 25.6 per cent and Pakistan at 21.5 per cent in 2019.<sup>5</sup> Marine tourism has been a major economic sector of Asia Pacific countries as well and contributes significantly to the GDP of the countries like Thailand, Indonesia, Malaysia, Singapore and the Philippines.<sup>6</sup>

As a proof of economic importance of blue economy in the Asia Pacific region, the size of blue economy and its share in the GDP in selective countries is shown in Table 1. It has been observed that the share of blue economy in the respective countries GDP varies from as low as one per cent to as high as 30 per cent and in few island nations, this is as high as 87 per cent. However, these estimates do not account for all the sectors of blue economy and are limited to major sectors like fisheries, aquaculture, shipping and tourism.

Ocean development is a part of the United Nations (UN) 17 Sustainable Development Goals (SDG) as well that are to be achieved by 2030. The SDG 14 (Life under Water) includes 10 targets predominantly designed for the well-being of the oceans and the living resources therein. According to the Asia and the Pacific SDG Progress Report 2021, the overall performance of the goal has regressed in the Asia Pacific region. In particular, progress in target 14.5 (Conserve Coastal and Marine Areas) has accelerated however, progress in target 14.1 (Reduce Marine pollution) has reversed<sup>7</sup> and the progress of the rest of the targets cannot be measured due to the lack of availability of data.

Investments have been directed towards ocean economy in the past but the bulk of investments have been towards building large-scale infrastructure, energy, transport, commercial fisheries, aquaculture, biotechnology and marine tourism instead of transitioning towards a sustainable ocean economy or blue



economy.<sup>8</sup> In addition, the cost for not conserving and the unsustainable use of oceans is also high. In the absence of any such measure to mitigate climate change, the cost of damage to ocean economy has been estimated to be 322 billion US dollars a year by 2050.<sup>9</sup> The 2019 IPCC Special Report on the Ocean Economy and Cryosphere in a Changing Climate<sup>10</sup> and Gaines et al.<sup>11</sup> both have reported significant impact of climate change on the ocean economy.<sup>12</sup>

In such a scenario, investors, insurers, banks, bilateral and multilateral agencies and development banks have a significant role in financing the transition to a sustainable ocean economy. Financial institutions have the power to accelerate and mainstream the sustainable transition of ocean-linked sectors. They also play an important role in ocean governance, engaging in public-private partnerships, and driving local-to-global actions for sustainability.<sup>13</sup> This has led to the rise of the concept of “blue finance” in the recent past. The development of this concept has been crucial now as it promotes and supports the transition into economic growth aligned with blue economy. In general, it refers to a financing mechanism that would ensure the conservation of oceans and its related resources and sectors.

While there is no widely accepted definition of what entitles as “Blue Finance”, but the investment community is now reaching to a consensus and it can be summarized as “generating, investing, aligning, and accounting for financial capital to achieve sustained ocean health and governance”.<sup>14</sup> It is understood that for the steady development of sustainable blue economy activities such as offshore wind farms, aquaculture, and supply chain build-up etc., blue strategic blue finance-based investments will be needed over the next few years.

It has been assessed that estimates for investment needs for the propagation of SDGs in developing nations range from 3.3 trillion US dollars to 4.5 trillion US dollars per year. It has been reported that at current levels of investment in SDG relevant sectors the developing countries alone face an annual investment gap of 2.5 trillion US dollars.<sup>15</sup> Additionally, given that many countries within the Asia-Pacific region don't have adequate financing mechanisms, recent estimates suggest that achieving the SDGs by 2030 will require an annual additional investment of 1.5 trillion US dollars for developing countries in the Asia-Pacific region.<sup>16</sup>

It must be noted that within the gambit of all the 17 SDGs, funding diverted towards SDG 14 (Life under water) has been very limited. While there is no official national or international reporting on the expenditures related to SDG 14 as the expenditure is registered as voluntary commitment as international ocean conferences, the 541 commitments for which data is available, they amount to 25.5 billion US dollars. The estimated cost of implementing SDG 14 targets by 2030 is 174.52 billion US dollars per year, while currently 25.5 billion US dollars is spent annually. This indicates a funding gap of 149.02 billion US dollars per year.<sup>17</sup> Additionally, despite the availability of different types of funding sources for SDGs, the major sources of funding for SDG 14 have been limited to Official Development Assistance (ODAs) and philanthropy grants.<sup>18</sup> A total funding of eight billion US dollars has been received from philanthropy and five billion US dollars from ODAs in the past one decade for blue economy globally but this amount is still not enough to fund even the conservation and sustainability activities of the sector.

At the global level, ODA towards a sustainable ocean economy by SDG14 targets can be seen in Figure 1. The data shows that SDG 14.1 (Marine Protection) has the highest ODA allocated, followed by 14.2 (Protect and Restore Ecosystem), 14.4 (Sustainable Fishing) and 14.7 (Increase the economic benefits from sustainable use of marine resources).

**Table 1: Estimated Size and Share of Blue Economy (BE) in the GDP in Asia-Pacific Countries**

Country	Year	Size of Blue Economy (in \$)	Share of BE of GDP
India <sup>19</sup>	2017	-	4.1%
Australia <sup>20</sup>	2016	71.4 billion	4.3%
Bangladesh <sup>21</sup>	2015	6.19 trillion	3.2%
Cambodia <sup>22</sup>	2015	2.4 billion	16%
Vietnam <sup>23</sup>	2015	28.94 million	18.8%
Hong Kong SAR, China <sup>24</sup>	2016	3.65 billion#	1.2%#
Indonesia <sup>25</sup>	2015	860 billion	14.85%
Malaysia <sup>26</sup>	2016	-	23%
Myanmar <sup>27</sup>	2018	-	3.5%*
New Zealand <sup>28</sup>	2017	3.8 billion	1.4%
Papua New Guinea <sup>29</sup>	2014	197 million^	3%^
Sri Lanka <sup>30</sup>	2017	-	1.3%*
Thailand <sup>31</sup>	2018	-	22.6%^
Timor Leste <sup>32</sup>	2015	1.97 billion	87%
Solomon Islands <sup>33</sup>	2014	-	8.9%^

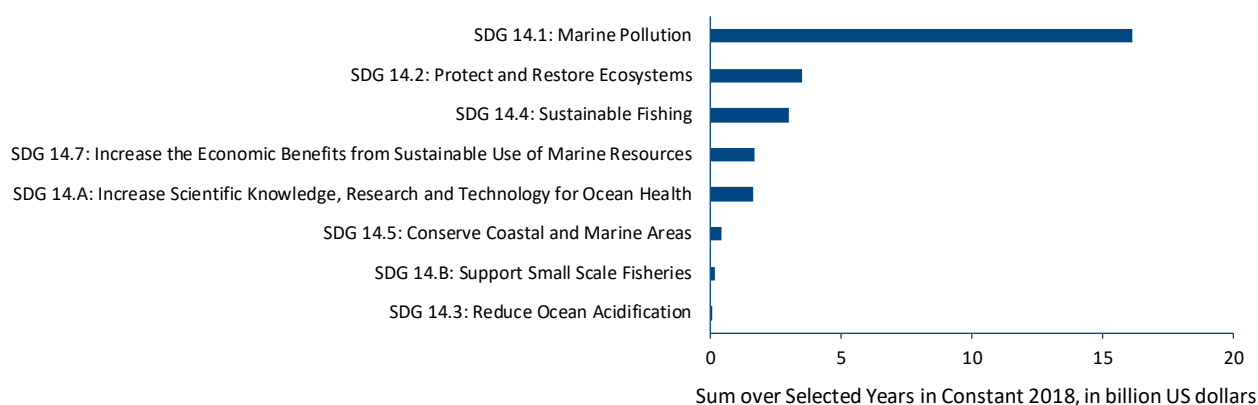
\*includes only fisheries and aquaculture

#includes only maritime and port industry

^includes only fisheries, aquaculture and marine tourism

Source: Juneja et al. (2021)<sup>34</sup>

**Figure 1: ODA to the Sustainable Ocean Economy by SDG 14 Sub-goals**

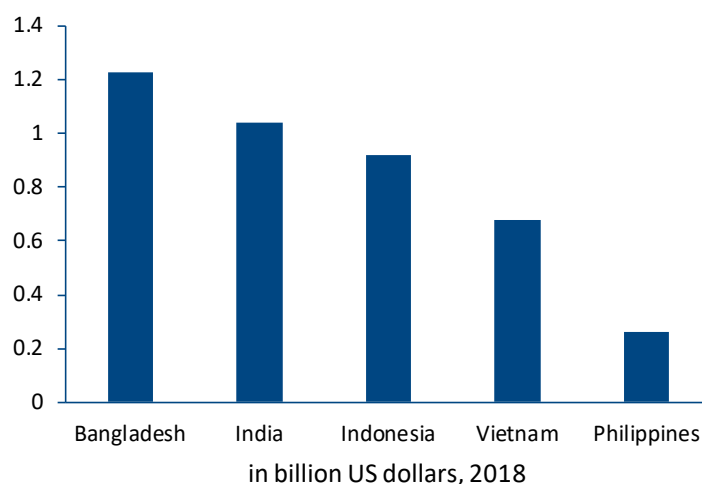


Source: OECD (2020)<sup>35</sup>

Among the top ten recipients of ODA for a sustainable ocean economy globally, six are from the Asia Pacific region. Figure 2 shows the ODA received by the top six Asian countries for blue economy in 2018. This represents the dependence of the Asian countries on ODA for finance for a sustainable ocean economy that are small and currently highly concentrated in three sectors — maritime transport, fisheries and marine protection.<sup>36</sup> This suggests that there exists scope to support other traditional and non-traditional sectors of blue economy.

Therefore, ODAs dominate the current financing instruments for a sustainable ocean economy and other innovative financing mechanisms are still developing in the region. Table 2 shows selected country level insights on the initiatives taken towards financing sustainable ocean economy. The countries shown here are recipients of funds for various activities of blue economy.

**Figure 2: Recipients of ODA for Sustainable Ocean Economy in 2018**



Source: OECD (2020)<sup>37</sup>

**Table 2: Country Wise Blue Finance Initiatives**

Country	Regulatory Framework/ Initiatives	Source of Investment	Resources Allocated	Resources Received/ Raised
Indonesia	Blue Finance Roadmap	Current: Seed/angel/venture capital Philanthropy CSR	\$18 billion in capital investments between 2017 and 2040	N/A
		Proposed: Incubator Industry funding Shared industry funding		
	Oceans Multi Donor Trust Fund (IOMC-MDTF)	ODA	N/A	\$2.26 million in 2017 \$2.23 million in 2018
	Indonesia Challenge Fund: Coastal Fisheries Initiative (CFI)	ODA	\$7.8 million for five years	N/A
Indonesia and Philippines	RARE's Meloy Fund	Debt and Equity	N/A	\$22 million

Pacific Island countries	Pacific Ocean Litter Project	ODA	\$16 million (2019–2025)	N/A
	Coral Triangle Initiative for Coral Reefs, Fisheries and Food Security (CTI-CFF)	ODA	\$13.2 million since 2009	N/A
	Enhancing Pacific Oceans Governance (EPOG)	ODA	\$6.4 million	N/A
Bangladesh	Blue Economy Cell	Blue Bonds (proposed instrument)	N/A	N/A
Thailand	Sustainability-linked bonds (SLB)	Bonds	THB 5 billion	THB 8.9 billion
China	Bank of China Blue Bond	Bonds	\$942.5 million	N/A
Republic of Korea	Blue Loan	Credit	N/A	N/A
Asia (India, Indonesia, the Philippines, Thailand and Vietnam)	Circulate Capital Fund	Venture capital	\$106 million	N/A
Asia (Cambodia, China, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam)	GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas	Grant; Co-finance; Environmental Investments	\$20 million	N/A
Asia (Cambodia, China, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam)	GEF/UNDP/IMO Regional Programme Building Partnerships in Environmental Management for the Seas of East Asia	Grant; Co-finance; Environmental Investments	\$232 million	N/A
Asia (Cambodia, China, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam)	Implementation of the Sustainable Development Strategy for the Seas of East Asia	Grant; Co-finance; Environmental Investments	\$67.3 million	N/A
Asia (Cambodia, China, Indonesia, Malaysia, Philippines, Republic of Korea, Thailand and Vietnam)	Development and Implementation of Public/Private Partnerships in Environmental Investments	Grant; Co-finance; Environmental Investments	\$180 million	N/A
East Asia and Pacific countries	PROBLUE Umbrella 2.0	Trust fund	\$150 million	N/A
Pacific countries (Solomon Islands, Vanuatu, Fiji, Tonga, Samoa, Kiribati,	Pacific Ocean Finance Program (POFP)	ODA, revenue from fishing license fees and philanthropy grants	N/A	\$430 million (revenue from fishing licence fees); \$136 million (ODA); \$68 million (grants); \$4 million (philanthropy)

Source: Authors' compilation

Overall, in the Asia Pacific region, public finances to support ocean conservation and climate actions by the World Bank, Green Climate Fund and the Global Environmental Facility has increased from 500 million US dollars to over two billion US dollars between 2013 and 2017.<sup>38</sup> The World Bank has also established the multi-donor trust fund, “PROBLUE” to support blue economy in the Asia Pacific in 2018. The trust fund was established as a support to the fisheries and aquaculture sector, waste management in the oceans, and the further development of other blue economy sectors including marine tourism, offshore energy and maritime transportation.<sup>39</sup> The Asian Development Bank (ADB) has also announced the launch of “Action Plan for Healthy Oceans and Sustainable Blue Economies for the Asia and Pacific Region” in 2019 and as a part of the programme, ADB aims to launch the Oceans Financing Initiative to promote the blue economy as well as to create opportunities for the private sector to invest in bankable projects.<sup>40</sup> But the financing gap highlighted earlier for SDG14 cannot be managed from donor funds alone; therefore, the need for private funds and funds through other innovative financing mechanisms arises. Innovative financing mechanisms have not been able to flourish to the fullest in blue economy despite the presence of grants and ODAs for almost a decade. Some of the prominent challenges pertaining to blue financing in developing countries are highlighted as under:

- ≡ Lack of investment-ready, bankable projects that are supported by a revenue model;
- ≡ Lack of specialist capacity to bridge the sectors of finance and economics with ocean science and management. There are definitional challenges relating to the overlap of blue economy and ocean economy. Moreover, there exist definitional inadequacies relating to blue finance, leading to a lack of universal standards and metrics to integrate issues pertaining to blue economy. Additionally, the existing taxonomies and frameworks defining blue economy do not interact well with the “blue” investments and are not guided by universally adopted principles;
- ≡ Low private sector investments into the blue economy;
- ≡ Low level of awareness and capacity building;
- ≡ Lack of understanding of potential risks emanating from issues pertaining to blue economy.



## Regulatory Framework on Blue Finance

During the course of this paper, few have stated the monetary contributions of ODAs for the advancement of investments within blue economy. While their contributions have helped improve the ocean sustainability narrative, the grants are still not enough to spur the sustainable promotion of blue finance, especially in the Asia-Pacific region which has several island countries with largescale potential to mobilize their water resources. Although it is understood that in the long term the key factor which will ensure the constant upsurge of blue economy-based financing will be private capital, the question that still remains is how that can be mobilized?

The ocean absorbs 90 per cent of our excess heat and 25 per cent of our carbon emissions, causing it to become 30 per cent more acidic.<sup>41</sup> Even though the deep-seated interlinkages that exist between climate change and systematic viability of the ocean network is well understood, it is time that separate control of the overall sustainability landscape concerning the health and the economic viability of our water resources is assumed. When the financing framework literature of UNFCCC, Kyoto Protocol, Paris Agreement and Green Climate Fund (GCF) are analysed, it was observed that the financial allocation in it has no mention of ocean finance, governance or conservation.

Good governance set up and regulations are an important aspect for attracting investments and improving the overall market stability. They aid in building stakeholder confidence, investor relations, and alert potential investors about the overall strength and stoutness of the market, assuring that their financial stake will reap in great benefits in the long term. This aspect is imperative for developing nations, as empirical evidence over the years has concluded that strong regulatory nudges coupled with good governance structures result in largescale FDI and capital inflow for developing nations.<sup>42 43</sup> Additionally, national and international regulations can aid government in collecting efficient data pointers which can further help them calculate the benefits of blue investments and the elimination of harmful subsidies, or the costs associated with policies that are detrimental to sustainable development. For instance, deregulation and inadequate governance measures have resulted in a rapid decline in fish stocks within Southeast Asia. Across the region, 64 per cent of the fisheries' resource base is reportedly at medium to high risk from overfishing, with Cambodia and the Philippines among the most heavily affected and may see their ability to generate revenues from fishing decline substantially over the next few years.<sup>44</sup>

In order to mobilize nations towards ocean conservation it is required to look at regulatory strategies to mainstream ocean governance, similar to what the Paris Agreement did for climate change. It allowed governments the freedom to set their own targets, thus different industries began to expand their representation and set their own net zero and emissions target, and in the end global partnership was slowly transformed into global leadership. This will allow for financial institutions to draw out strategies to specifically finance programmes dedicated to support the health of our oceans, make sure financial transparency is maintained and that local stakeholders who will directly impact from the fund allocation are part of deliberations throughout.



To propel the narrative investments in blue finance, there is a need for blue economy to be part of the domestic regulatory framework as a separate entity under the climate change initiatives and mitigation activities that have been proposed by different nations.

🌊 **Indonesia:** Launched in 2017, Indonesia has become one of the few countries to have a regulated nationwide “Ocean Policy” which seeks to add the narrative of Blue Economy within its national governance structure. Under the policy, a coordinating Ministry for Maritime Affairs and Investment has been formed which has the task of coordinating, synchronising and controlling the affairs of the Ministry in the administration of maritime affairs and investment.<sup>45</sup> The policy document clearly elaborates the important aspects of ocean management, and functions appropriately in its aim to coordinate maritime-related policies. This allows for dedicated investment and fund allocation for programmes, which leads to efficient management practices.

🌊 **Australia:** The country under its “The National Marine Science Plan 2015–2025” has dedicated itself towards research and innovation and is using it as a variable to attract investments. For instance, the algae in southern Australia are a vast untapped source of chemical diversity and opportunity for new industry developments. Collaborations between universities and industries, including international industry partners, have developed food, cosmetic, pharmaceutical and agricultural products from Australian seaweeds. This has attracted over 20 million US dollars investment in developing an industry potentially worth billions of dollars. Further, the nation has identified a number of priority initiatives for future investment, which focus on building a strong national blue economy.<sup>46</sup>

The evidence from the national ocean policy testimonies of Indonesia and Australia suggests that once the interlinking vulnerabilities under climate change are clearly defined by the local regulatory authorities, then it will make it easier for the transfer/utilization of funds for specific purposes. In their report titled “Climate Adaptation Finance: Fact or Fiction” CARE found that the developed nations have over-reported climate adaptation finance by 20 billion US dollars. The World Bank over reported its financing to Nepal by 832 million US dollars in total, including 328 million US dollars on an Earthquake Housing Reconstruction Project in Nepal. Although the project is primarily a response to a geohazard unrelated to climate change, 86 per cent of its budget is reported as finance for climate-change adaptation.<sup>47</sup> In order to avoid such financial mishaps, it is important for nations to clearly define and categorize different climate change-based interlinkages so as to better track outflow of funds and for what purposes are they being utilized.

## 2 Potential Stakeholder Collaborations to Facilitate Finance

The considerable rise of green bonds in the Asia-Pacific is not only indicative of increased consciousness on sustainability issues; it is an indicative of positive behavioural change of investors towards sustainable investing as well. However, the success of these fiscal measures depends largely on varied aspects of governance. Some of the prominent stakeholders that can induce change in the existing state of blue finance include bilateral agencies, development financial institutions, institutional investors, companies, financial intermediaries and the like.

### Frameworks for Financing Blue Economy

As there are no accepted frameworks for financing blue economy, there is a wide scope of ideation. Existing literature points out to two such frameworks. One, developed by the Asian Development Bank,<sup>48</sup> and other by Tirumala and Tiwari.<sup>49</sup> The framework developed by ADB as illustrated in Annex 1.1 is regulatory driven which implies that the sovereign states issue blue bonds inviting private investors with guarantees provided by the multilateral development banks such as World Bank. These types of bonds are also known as social impact bonds or more precisely development impact bonds. The crucial difference between these bonds and a traditional bond is that the return on the bonds to investors is linked to the achievement of outcomes, thereby increasing the competitiveness and credibility of the bonds. Moreover, this is another way of ensuring efficient utilisation of public money.

Similarly, Tirumala & Tiwari proposes pathways for accelerating investments in the blue economy.<sup>50</sup> The investments are centred on the nodal financing facility (to be termed as Ocean Financing Facility) to raise required funds and direct the same to the blue economy projects. According to the authors, this financing facility can be established either at the national or regional level to make use of the different types of funds. The funds can be delegated to finance targeted projects, large impact projects and also cater to capacity building and advocacy requirements. Post implementation of the projects, monitoring plays a pertinent role to achieve outcomes. Hence, starting from incubation to achieving outcomes, the various phases need to be stringently monitored.

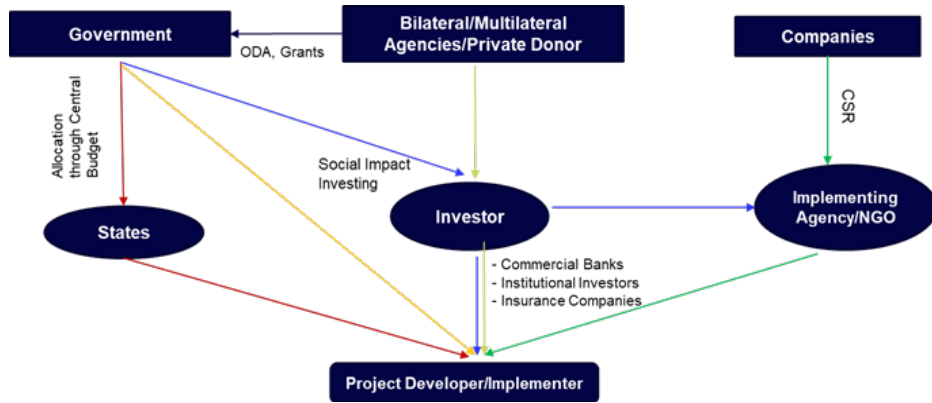
Based on the present landscape of economy financing, the potential collaboration of various stakeholders can be conceptualised as in Figure 3. At present, there is no provision of CSR money being routed for development of blue economy projects, however, it can be one of the potential sources investing.

**Table 3: Potential Stakeholders Involved in Blue Financing**

Stakeholder	Potential Role	Strength	Weakness
<b>Institutional Investors from Asset Managing Companies</b>	Selection of stocks based on BF criteria	<ul style="list-style-type: none"> <li>i. Being obliged to fiduciary duty, Institutional investors undertake additional measures to safeguard clients' financial interests</li> <li>ii. Diversify risks based on non-financial factors</li> </ul>	<ul style="list-style-type: none"> <li>i. Lack of awareness and clients low risk perception relating to BF factors</li> <li>ii. Lack of a BF financing framework and standard practices</li> </ul>
<b>Investment Banks</b>	Advising and conducting due-diligence based on the blue economy	<ul style="list-style-type: none"> <li>i. Bounded by fiduciary duty to safeguard clients' financial interests</li> <li>ii. Potential to merge financial returns with non-financial returns</li> </ul>	<ul style="list-style-type: none"> <li>i. Lack of awareness on sustainable issues</li> <li>ii. Lack of an integrated framework for integration of non-financial issues</li> <li>iii. Lack of proper monitoring frameworks</li> </ul>
<b>Bilateral Agencies</b>	Providing funds for blue economy infrastructure projects	-	-
<b>Multilateral Development Banks</b>	Provide funds for BE projects	Can act as a guarantor for government funds	Depends on the credibility of the issuing institution
<b>Commercial Banks</b>	Encourage and incentivise investment towards BE projects	Design financial products to attract investments from different categories of investors	<ul style="list-style-type: none"> <li>i. Low awareness on BE issues</li> <li>ii. Low risk perception</li> <li>iii. Less to no demand of financial products catering to BE</li> </ul>
<b>Impact Investors</b>	Link and Integrate financial returns with BE	Have potential to change the culture of investing from traditional to issue based.	Lack of awareness on blue economy issues
<b>Credit Rating Agencies</b>	Include sustainability issues as one of the parameters for credit rating	Linking sustainability risks to financial returns	Low risk perception emanating from sustainability/blue economy issues
<b>Academia</b>	Conduct research and propagate	Facilitate understanding on blue financing issues to students	Issues on blue financing/ sustainability financing are not included as mainstream courses at school/college/ university
<b>Civil Society</b>	Conduct research and advocacy on BE and BF issues	Exert influence on different category of stakeholders	Faced with financing deterrents for project implementation
<b>Policy Makers</b>	Develop a Regulatory Framework for financing the BE — This entails designing policies and regulations	Induce transparency and credibility in financing frameworks	-
<b>Stock Exchange</b>	Design market indices through integrating BE issues. Certain	Harnessing the market sentiments and bridging the gap between companies and investors	Lack of any regulatory authority
<b>Companies</b>	Funding through CSR	CSR is one of the channels of creating a social impact	Legal Complexities and lack of any regulatory framework

Source: Authors' compilation

**Figure 3: Landscape for assessment of Blue Finance**



Note: The different colours represent potential channels of financing BE activities

Source: Conceptualised by authors



## Conclusion

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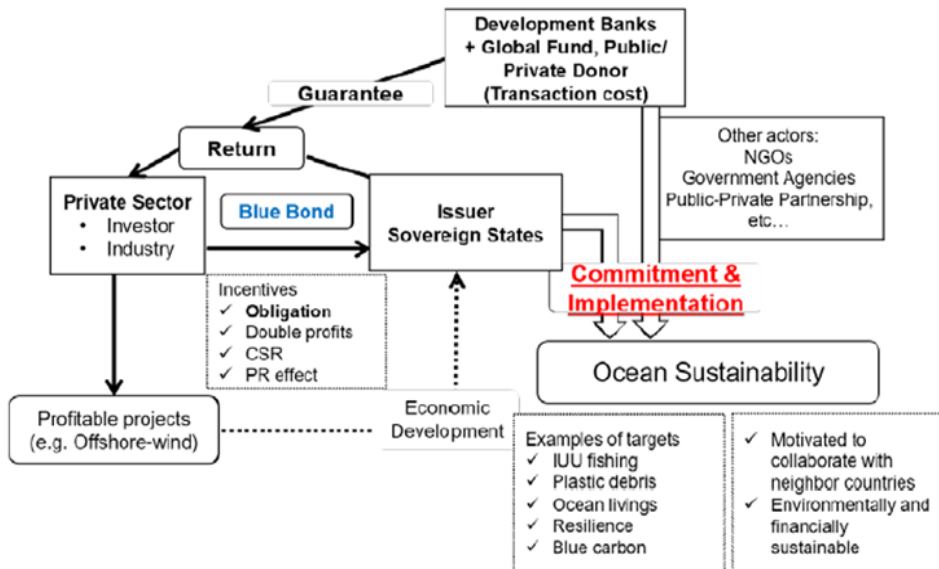
The objective of this policy brief has been to focus more on the regulatory aspects of blue finance mechanisms which are in the conception phase. However, it is widely understood and acknowledged that the cost of inaction is high. Hence, funds need to be mobilised for accelerating investments in the blue economy. Establishing stakeholder collaborations and getting influencers from the government to be at the forefront can be the first step in this direction. There needs to be an equal participation of the public and private sectors to design, deploy, operate and finance the initiatives.

At present, the appetite of the investors in terms of the risk-return trade-off is not met by the blue financing projects. This is because of a myriad factor. Hence, various forms of risk restructuring, credit enhancement guarantees, blended finance forms are required to lure investors. While ODA and grants are already available, market sources of capital need to be harnessed.

Moreover, various projects require different forms of finance. Usually, the requirement is higher in the implementation stage; hence low-cost long-term financing in the form of partial risk guarantees is required.<sup>51</sup> In addition to this, capacity development and awareness generation is necessary to bring in transformational change.

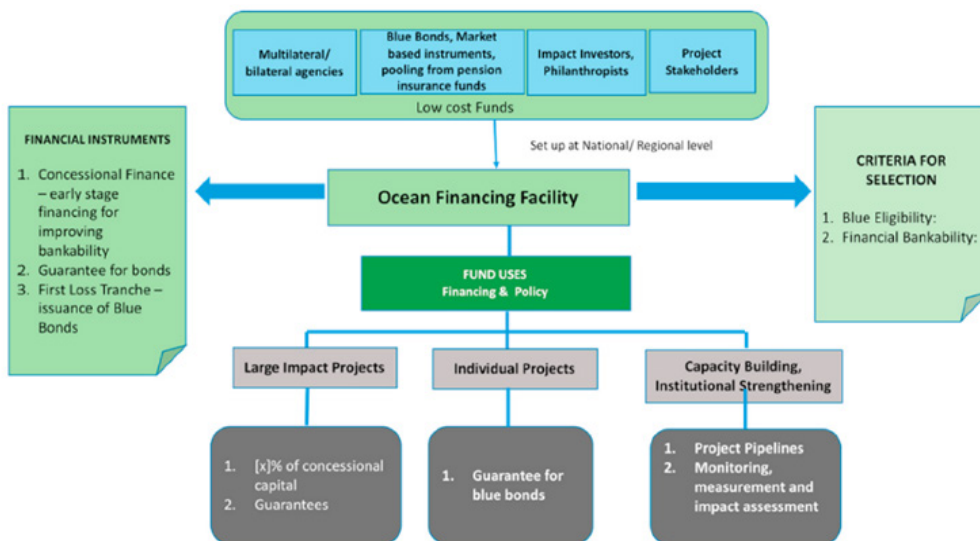
# Annexes

## Annex 1.1: Blue Finance Mechanism



Source: Yoshioka et al. (2020)<sup>52</sup>

## Annex 1.2: Blue Finance Mechanism



Source: Tirumala & Tiwari (2020)<sup>53</sup>



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